

Posterior Reversible Encephalopathy Syndrome: The Riley Experience

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Abstract:

Background: Posterior reversible encephalopathy syndrome (PRES) is a severe neurologic complication associated with many disease processes that can be difficult to diagnose. PRES is a clinikoradiological disease entity represented by characteristic magnetic resonance imaging (MRI) findings, and one of the following clinical features: seizures, headaches, altered levels of mental status, and cortical blindness. Despite growing recognition, debate about the true cause and risk factors remain. To date, this is the largest retrospective chart review of pediatric patients with PRES and evaluates patients across a wide variety of diagnoses. **Methods:** Pediatric patients presenting to Riley Hospital for Children between January 1, 2003 and December 31, 2014 for PRES were identified retrospectively. Chart review identified true cases of PRES, and underlying diagnosis and risk factors. Of the 129 patients identified, 86 were confirmed cases of PRES. **Results:** The underlying diagnosis in patients presenting with PRES mainly included nephrogenic diseases, oncologic disease, and pregnancy. Due to the broad range of underlying etiologies, no class of medications was identified as a cause. However, hypertension was strongly associated with development of PRES. Of the 86 confirmed cases, 82 had complete data for analysis revealing 80 patients with hypertension at the onset of symptoms (97.6%). Underscoring the severity of the disease, 63 of the 86 confirmed cases of PRES required pediatric intensive care (73%). Despite the severity of the syndrome, recognition and appropriate therapy allowed for improvement in the majority of patients. Four patients died from their underlying disease process and one patient developed a seizure disorder. **Conclusion:** PRES is severe complication that can impact patients across a variety of diseases. Close attention must be paid to diseases associated with hypertension. Although previously thought to be a result of direct cytotoxic effects of medication, this study shows hypertension is more strongly associated with development of PRES than medications. While generally reversible, symptoms are often severe enough to require treatment in an intensive care unit. Early diagnosis and correction of blood pressure is important for optimum patient care.